

# 7 Virginia SOL

## Grade 6 MATH

### PRACTICE TESTS

7  
PRINTED  
TESTS

+

2  
ONLINE  
TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.

Standards-Aligned *Steady Southern*  
Problem Solving for Comprehensive  
Assessment Program



7 Full-Length  
Printed Tests



Standards-Aligned  
Math Practice



Detailed Answer Keys  
and Explanations



Build Confidence.  
Achieve Success.



You've  
Got  
This!



PREPARE  
PRACTICE  
SUCCEED



PRACTICE  
WITH PURPOSE



STRENGTHEN  
MATH SKILLS



REVIEW, IMPROVE,  
AND SUCCEED

# 7 Virginia SOL Grade 6 Math Practice Tests

*Standards-Aligned Commonwealth-Ready Math Practice for Standards of Learning*



Seven complete 40-question Grade 6 practice rounds for SOL, built for commonwealth-ready math practice with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

**Jay Daie and Reza Nazari**



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# Welcome, Virginia Math Explorer!

Eight focused rounds using commonwealth-ready math practice

This book gives you seven full Grade 6 practice tests for SOL. Each round uses historic routes, mountain views, and careful solution checks as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

## Your Virginia Practice Promise

Build the answer with evidence: identify the skill, show the work, and verify the result.

Read

Plan

Check

## How to Use This Book

A seven-session routine for commonwealth-ready math practice

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Work in order.** Take one 40-question test at a time in a quiet place.
3. **Mark confidence.** Put a small star beside problems where your plan felt strong.
4. **Correct actively.** Retry missed items before reading the full explanation.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

**Virginia review rhythm:** Take one round, review the reasoning, and use the next test to improve precision.



## What Is Inside?

Eight SOL tests, 320 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Test 7	Final stamina round for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Commonwealth-ready math practice means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.

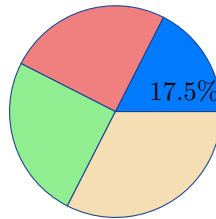


Scan me!  
For more practice  
& answers

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- 1) A teacher reports: “Most students scored between 75–85. A few students scored in the 60s, and one scored 95.” Which shape best describes this distribution?
- A. Symmetric  C. Skewed left  
 B. Bimodal  D. Skewed right
- 2) A student rolls two standard dice. If the probability of getting a sum of 12 is  $\frac{1}{36}$ , is this event likely or unlikely?
- A. Likely  C. Certain  
 B. Impossible  D. Unlikely
- 3) A 3-digit number has a stem-and-leaf representation with stem 23 and leaf 5. What is the number?
- A. 235  C. 253  
 B. 325  D. 52



- 4) A restaurant surveyed 520 customers about meal type. The circle graph shows 17.5% chose appetizers only. How many chose appetizers only?
- A. 91  C. 104  
 B. 85  D. 125



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5) A circle graph (pie chart) shows the distribution of 360 students by lunch preference: pizza 120 students, tacos 90 students, salad 60 students, other 90 students.

What angle in degrees should the pizza section span?

- A. 180 degrees                       C. 60 degrees  
 B. 90 degrees                         D. 120 degrees

6) A fruit basket contains 6 apples and 4 oranges. What is the ratio of apples to oranges in simplest form?

- A. 6 : 4                                 C. 4 : 6  
 B. 2 : 3                                 D. 3 : 2

7) A sports team has players on offense and defense in a 11 : 6 ratio. If the team has 22 offensive players, how many defensive players does it have?

Offensive Players	Defensive Players
11	6
22	?

- A. 10                                       C. 14  
 B. 12                                       D. 16

8)

Number of Pizzas	Total Cost (\$)
1	15
2	30
3	45
5	$x$

The table shows the relationship between pizzas and cost. What is the value of  $x$ ?

- A. 45                                       C. 90  
 B. 60                                       D. 75



9) Which step would you use first to solve  $x + 5 = 13$ ?

A. Subtract 5 from both sides

C. Divide both sides by 5

B. Add 5 to both sides

D. Multiply both sides by 5

10) A baker makes cookies. For every batch, she uses 3 cups of flour. After making  $b$  batches, she has used  $f$  cups of flour. Which equation shows this relationship?

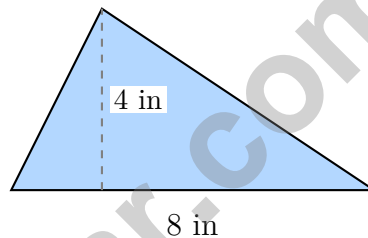
A.  $b = 3f$

C.  $b + f = 3$

B.  $b = f + 3$

D.  $f = 3b$

11) A triangle has a base of 8 inches and a height of 4 inches. What is its area?



A.  $12 \text{ in}^2$

C.  $32 \text{ in}^2$

B.  $64 \text{ in}^2$

D.  $16 \text{ in}^2$

12) A point is located on the negative  $x$ -axis. What is its  $y$ -coordinate?



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- 1) Sarah scored 45 correct answers out of 60 questions on a math test. What percent of the questions did she answer correctly?
- A. 55%                       C. 75%
- B. 65%                       D. 85%
- 2) A baker has  $2\frac{1}{4}$  pounds of flour. Each loaf of bread requires  $\frac{3}{4}$  pound of flour. How many loaves can the baker make?
- A.  $1\frac{2}{3}$                        C.  $3\frac{1}{2}$
- B. 3                       D.  $2\frac{1}{2}$
- 3) Which integer is closest to zero on a number line?
- A. -5                       C. 4
- B. -8                       D. -1
- 4) A recipe calls for  $\frac{2}{5}$  cup of sugar. What percent is this of 1 cup?
- A. 25%                       C. 60%
- B. 50%                       D. 40%
- 5) A comparison of two phone plans shows: Plan A: \$30 per month with no additional fees Plan B: \$10 per month plus a \$20 one-time activation fee  
Which plan's cost is proportional to the number of months?
- A. Plan A only                       C. Both plans
- B. Plan B only                       D. Neither plan





1) A grocery bill shows 8 apples for \$4.80. A shopper claims the unit price is \$4.80 per apple. What is wrong with this answer?

- A. The shopper used the total cost instead of dividing by quantity
- B. The shopper forgot to convert to cents
- C. The shopper used the wrong number of apples
- D. The answer is actually correct

2) Which statement is **true** about the radius and diameter of a circle?

- A. Radius is the distance across the circle
- B. Diameter is twice the radius
- C. Radius equals the diameter
- D. Diameter is half the radius

3) A teen allocates allowance as: \$20 for savings (20%), \$30 for entertainment (30%), \$15 for gifts (15%), and the rest for snacks. How much total allowance does the teen receive?

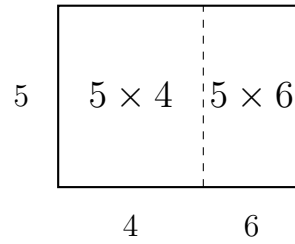
- A. \$50
- B. \$75
- C. \$125
- D. \$100

4) A florist is arranging flowers into bouquets. She has 18 red roses and 24 white roses. If she uses all the flowers and each bouquet has the same number of red and white roses, what is the maximum number of bouquets she can make?

- A. 6 bouquets
- B. 8 bouquets
- C. 18 bouquets
- D. 42 bouquets



5) The area model below represents a factored sum. What is the factored form?



- A.  $5(4 + 6) = 50$
- C.  $(4 + 6)(5) = 50$
- B.  $4(5 + 6) = 44$
- D.  $5 \times 10 = 50$

6) A company’s profit for January was \$8,000. In February, they had a loss of \$3,000 (represented as  $-\$3,000$ ). What was the total profit/loss for the two months?

Month	Amount
January	$+\$8,000$ (profit)
February	$-\$3,000$ (loss)
Total	?

- A. \$5,000 profit
- C. \$11,000 profit
- B. \$5,000 loss
- D. \$11,000 loss

7)

<b>Servings</b>	2	4	6
<b>Eggs</b>	3	6	9

What is the unit rate in eggs per serving?

- A.  $\frac{1}{2}$  egg per serving
- C. 2 eggs per serving
- B.  $\frac{3}{2}$  eggs per serving
- D. 3 eggs per serving



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## Virginia SOL Practice Test Answer Keys

**How to use this Virginia SOL answer section with a Grade 6 student:**

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to commonwealth-ready math practice
3. rework the problem before reading the full explanation, using this reminder:  
Build the answer with evidence: identify the skill, show the work, and verify the result.

**A calm Virginia correction routine turns every missed item into useful practice. Take one round, review the reasoning, and use the next test to improve precision.**



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## Virginia Practice Test Answers and Explanations

Review the seven printed SOL tests with prepared, precise, and ready for the next challenge habits.

### Practice Test 1 Answers and Explanations

- Choice C is correct.** **(6.PS.1)** The bulk of the data is clustered on the right (75–85), with a tail extending left (60s). This is left-skewed. The one high score (95) doesn't create skew because skew depends on the distribution of most values.
- Choice D is correct.** **(6.NS.1)** A probability of  $\frac{1}{36} \approx 0.028$  is very close to 0, making the event unlikely to occur.
- Choice A is correct.** **(6.PS.2)** With a 2-digit stem (23), the leaf (5) is appended to form the 3-digit number 235.
- Choice A is correct.** **(6.NS.1)** 17.5% of 520 is  $0.175 \times 520 = 91$  customers.
- Choice D is correct.** **(6.PS.1)** Pizza accounts for  $\frac{120}{360} = \frac{1}{3}$  of students. The angle is  $\frac{1}{3} \times 360^\circ = 120^\circ$ .
- Choice D is correct.** **(6.PFA.2)** Great start: keep the order the same, apples first and oranges second. Both 6 and 4 can be divided by 2, so 6 : 4 becomes 3 : 2.
- Choice B is correct.** **(6.PFA.1)** The ratio is 11 : 6. When offensive is 22 (multiply by 2), defensive is  $6 \times 2 = 12$ .
- Choice D is correct.** **(6.PFA.4)** The pattern is cost = 15 × number of pizzas. At 5 pizzas:  $15 \times 5 = 75$  dollars.
- Choice A is correct.** **(6.PFA.3)** To undo addition, subtract. This isolates  $x$  on the left side.
- Choice D is correct.** **(6.PFA.4)** Flour used equals 3 cups per batch times the number of batches:  $f = 3b$ .
- Choice D is correct.** **(6.MG.2)** Using  $A = \frac{1}{2}bh$ , we get  $A = \frac{1}{2} \times 8 \times 4 = 16 \text{ in}^2$ .
- The correct answer is 0.** **(6.MG.3)** All points on the  $x$ -axis have a  $y$ -coordinate of 0. For the negative  $x$ -axis specifically, the  $x$ -coordinate is negative but  $y$  is always 0.
- Choice D is correct.** **(6.CE.2)** "More than \$25" is  $p > 25$ . "Fewer than \$100" means  $p < 100$ . Together:  $p > 25$  and  $p < 100$ .
- Choice D is correct.** **(6.PFA.4)** Numbers NOT less than 4 means  $x \geq 4$  (greater than or equal). This requires a closed circle at 4 with an arrow pointing right.
- Choice D is correct.** **(6.MG.2)** Area =  $11 \times 4 = 44 \text{ cm}^2$ .
- Choice B is correct.** **(6.MG.3)** The bottom base goes from (1, 2) to (6, 2). Length =  $6 - 1 = 5$  units.
- Choice B is correct.** **(6.MG.3)** The formula for a triangle is Area =  $\frac{1}{2} \times \text{base} \times \text{height}$ . The student multiplied base and height but forgot the  $\frac{1}{2}$  factor. The correct area =  $\frac{1}{2} \times 8 \times 6 = 24$  square units.
- The correct answer is -8.** **(6.PFA.2)** On a number line, -8 is less than -3.
- Choice D is correct.** **(6.MG.1)**  $SA = 2LW + 2LH + 2WH = 2(5)(5) + 2(5)(15) + 2(5)(15) = 50 + 150 + 150 = 350 \text{ cm}^2$ .
- The correct answer is Zero serves as a reference point by marking the origin. Negative numbers are to the left (A is correct). Opposites are equidistant from zero (C is correct). Distance from zero determines position relative to the reference point (E is correct).** **(6.PFA.2)** Choice A correctly identifies the spatial arrangement with zero as origin. Choice C correctly describes opposites as equidistant from zero (the reference). Choice E correctly explains how distances from zero locate a number. Choice B is about comparison, not zero's role as reference. Choice D is about direction but doesn't specifically explain zero's reference-point function.
- Choice D is correct.** **(6.MG.1)** From  $A = \pi r^2$ , we get  $201 \approx \frac{22}{7} \times r^2$ , so  $r^2 \approx 64$ , thus  $r = 8$  m.
- Choice C is correct.** **(6.PS.1)** Total days:  $2 + 7 + 9 + 4 = 22$ . The 70–80 bin has 9 days, so  $(9/22) \times 100 \approx 40.9\%$ , which rounds to 41%.
- Choice C is correct.** **(6.NS.1)**  $\frac{12}{40} = \frac{3}{10} = \frac{30}{100} = 30\%$  (simplify, then write as a fraction with denominator 100).
- The correct answer is 17.** **(6.NS.3)** Substitute:  $a = 2$  so  $a^3 = 2^3 = 8$ . And  $b = 3$  so  $b^2 = 3^2 = 9$ . Then add:  $8 + 9 = 17$ .
- Choice C is correct.** **(6.PFA.2)** For  $k = 5$ , (1, 5) and (3, 15) both fit because  $5/1 = 5$  and  $15/3 = 5$ . The point (5, 27) does not fit because  $27/5 = 5.4$ . Changing it to (5, 25) makes  $25/5 = 5$ .



## Hi, Math Champion!

◇ You trained hard! 7 full practice tests is real practice. Your math game is way better now than when you started. ◇

★ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works!

★

### Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

**Coach's tip:** the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Coach

# MASTER TODAY. SUCCEED TOMORROW.

This Grade 6 Math Practice Tests book is designed to help students strengthen their math skills, master important concepts, and build the confidence they need to excel on comprehensive assessments.

With 7 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, develop problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.



## PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence

★ PRACTICE TODAY.  
SUCCEED TOMORROW.

## WHAT STUDENTS WILL GAIN



### Stronger Math Skills

Build a solid foundation through targeted practice and review.



### Better Problem Solving

Develop logical thinking and effective solution strategies.



### Deeper Understanding

Reinforce key concepts aligned with standards through meaningful practice.



### Test Confidence

Become familiar with test formats and improve accuracy and speed.



### Achieve Success

Build confidence and perform your best on test day.

## TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



### 2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

## MORE PRACTICE. GREATER RESULTS.

Give your child the tools needed to develop strong math skills, confidence, and a positive attitude toward learning.



7 FULL-LENGTH  
PRINTED TESTS



STANDARDS-  
ALIGNED PRACTICE



DETAILED ANSWER  
KEYS & EXPLANATIONS